



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/571,298	03/10/2006	Dirk Simon	PP1-22950/CGM 533/PCT	6245
324 7590 06/30/2010 BASF Performance Products LLC Patent Department 540 White Plains Road P.O. Box 2005 Tarrytown, NY 10591				
EXAMINER				
DOLLINGER, MICHAEL M				
ART UNIT		PAPER NUMBER		
1796				
NOTIFICATION DATE		DELIVERY MODE		
06/30/2010		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

andrea.dececchis@basf.com  
deborah.pinori@basf.com  
sonny.nkansa@basf.com

### Office Action Summary

**Application No.**

10/571,298

**Applicant(s)**

SIMON ET AL.

**Examiner**

MIKE DOLLINGER

**Art Unit**

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 May 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 14, 15 and 17-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 14, 15 and 17-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

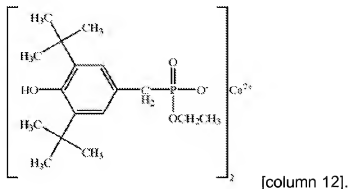
## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

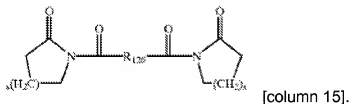
The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 14, 15 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pfaendner et al (US 6,028,129) in view of Loontjens et al (US 6,395,869 B2).
2. Pfaendner teaches a process for increasing the molecular weight of polycondensates by processing with a mixture of several compounds at a temperature above the melting point [abstract]. The polycondensate may be a polyester [column 2 line 41] which is preferably polyethylene terephthalate, polybutylene terephthalate or polyethylene naphthalate [column 5 lines 62-64]. The processing temperature for polyethylene terephthalate is 260-310°C and for polybutylene terephthalate is 230-280°C [column 24 lines 59-65]. The composition preferably includes a phosphonate which is included in an amount of 0.25% in the inventive examples [Table 1] and preferably includes a phosphonate of the formula;



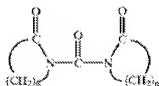
The composition may also include difunctional acylactams of the formula:



The composition may also include bisoxazolines [column 14 line 37].

3. While Pfaendner discloses the use of acylactams of the above formula, Pfaendner does not disclose acylactams of the elected species of claim 5 of formula (la).

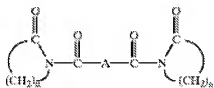
4. Loontjens teaches bislactam compounds of the formula



which are useful for increasing the molecular weight of a polyamide or polyester and wherein n is an integer of between 3 and 15, preferably 5 and 12 [column 1 lines 49-65].

This carbonyl bislactam is included in an amount of 0.1wt% to 4wt% relative to polyamide or polyester [column 2 lines 5-10]. The polyester is preferably polyethylene

terephthalate, polybutylene terephthalate or poly ethylene naphthalate [column 2 lines 35-37]. The process is carried out by melt mixing the components [column 2 lines 40-49]. Loontjens teaches that these carbonyl bislactams avoids the drawbacks [column 1 lines 43-45] of acyllactams of the formula



[column 1 line 20]

including relatively low reaction rate and discoloration of the polyester or polyamide [column 1 lines 29-33].

5. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have increased the molecular weight of a polyester by melt processing with calcium phosphonate and a carbonylbislactam because Pfaendner teaches that it is within the skill of the art to increase the molecular weight of a polyester by melt processing with a calcium phosphonate and a bis-N-acyl lactam and Loontjens teaches that it is within the skill of the art to increase the molecular weight of a polyester by melt processing with a carbonyl bislactam. One would have been motivated to use a carbonyl bislactam in place of a bis-N-acyl lactam because Loontjens teaches that the carbonyl bislactam overcomes the drawbacks of the bis-N-acyl lactam such as relatively low reaction rate and discoloration of the polyester. Absent any evidence to the contrary, there would have been a reasonable expectation of success in replacing the acyllactam of Pfaendner with the acyllactam of Loontjens.

6. Regarding claim 17, Examiner has calculated the range of the ratio of bislactam to phosphonate based on the above cited amounts and found that it is 1:2.5 to 16:1. Regarding the various ranges of amounts of components in the instant claims and any corresponding ranges of amounts of components in the prior art: in the case where the claimed ranges overlap or lie inside ranges disclosed by the prior art *prima facie* case of obviousness exists. See *In re Wertheim*, 541 F.2d 257, 1911 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

#### ***Response to Arguments***

7. Applicant's arguments filed 05/24/2010 have been fully considered but they are not persuasive.
8. With regards to Applicants' allegation of unexpected results found in the present invention, Applicants are reminded that any showing of unexpected results must meet three criteria: a) the experimental data must compare the claimed invention to the analogous invention of the prior art, b) the showing must be commensurate in scope with the present claims, and c) the results must be, in fact, unexpected. In the instant case the showings do not meet at least criterion a):
- a. The difference between the closest prior art and the present invention is that the prior art has a combination of polyester and the elected phosphonate and non-elected acyllactam whereas the claims require a combination of polyester and the elected phosphonate and elected acyllactam. In order to show unexpected results over the prior art, Applicants must submit evidence

comparing the prior art composition to inventive compositions wherein the only difference is in the specific combination of phosphonate and acyllactam; all other amounts, processing and types of components must be comparable. **The Examples of page 49 of the specification are a fair comparison of the prior art and the claimed invention.**

b. Applicants have shown evidence of unexpected results only for one data point: polyethylene terephthalate comprising 0.3% ALLINCO and 0.1% IRGAMOD 195. **The showing of unexpected results is not commensurate in scope with the claimed invention.** The unexpected results must be shown over the full breadth of three ranges: 1) the range of the amount of phosphonate component, 2) the range of the amount bis-acyllactam component and 3) weight ratio of bis-acyllactam to phosphonate.

c. Applicants are reminded that any results must be unexpected to one having ordinary skill in the art in order to rebut a *prima facie* case of obviousness. If an improvement is taught in the prior art (including prior art not referenced in the rejection) or would have been expected (improved flame retardancy upon adding a flame retardant additive) it will not rebut a *prima facie* case of obviousness. **The current results appear to be unexpected.**

9. Applicants may submit new evidence in affidavit or declaration form or amend the claims in order to place the scope of the claims commensurate with the scope of the showing of unexpected results. All amendments to the claims must, of course, have written description support in the specification.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **MIKE DOLLINGER** whose telephone number is (571)270-5464. The examiner can normally be reached on **M-F 9-5:30**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Randy Gulakowski** can be reached on **571-272-1302**. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/mmd/

/RANDY GULAKOWSKI/  
Supervisory Patent Examiner, Art Unit 1796